

Performance Measurement

at the Joint Integration Test Facility

JITF Performance Measurement

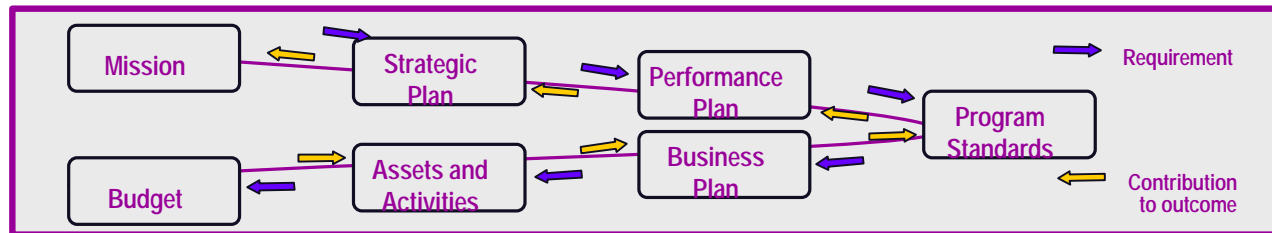


- Why do Performance Measurement?
- Performance Measurement Plan (PMP)
- Data Collection
- Measurement Data
- JITF PMO Entrance and Exit Surveys
- Actions Based on PM Process

Why do Performance Measurement?



- Mandated by the Federal Government.
 - Government Performance and Results Act (GPRA)
 - Information Technology Management Reform Act (ITMRA)
- Makes “Business” Sense.



- Links Budget to Mission.
- Focuses on Return on Investment (ROI).
- Aids Management Decisions.
 - Its an action which prompts action.

Performance Measurement Plan



Establishes six measurements based on goals of the enterprise:

- Goal 1 – Maximize Customer Satisfaction
 - Measure 1.A. – Customer Surveys
 - Measure 1.B – Timeliness of Test Reporting
- Goal 2 – Increase quality of Intelligence Mission Applications (IMA)
 - Measure 2.A – Requirements Met
 - Measure 2.B – Requirements Not Met
- Goal 3 – Maximize Efficiency
 - Measure 3.A – Schedule Volatility
 - Measure 3.B – Comments Against Test Report

Performance Measurement Data Collection



- **Baseline -**

- Data for FY 1999 were collected for a baseline comparison. The PM required a baseline for comparison of performance on each measurement.

- **Quarterly -**

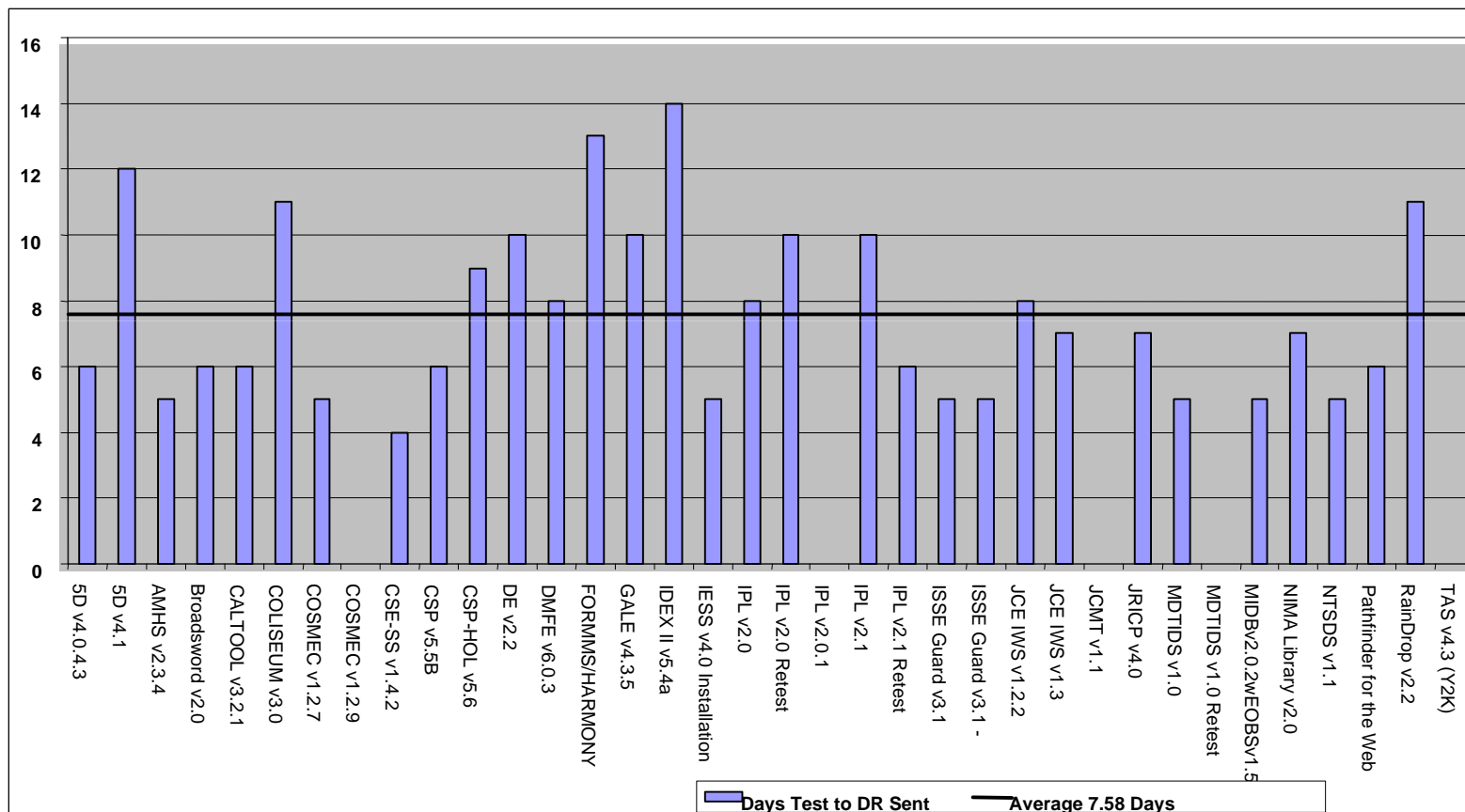
- **Test Reports:** Data is collected on each test which has a final test report date within the target quarter. Data from each test report include
 - Surveys from the PMO (or test representatives)
 - Test dates, Draft report dates, Final report dates, VTF posting dates
 - Percentages of requirements met per test
 - Requirements not met
 - Comments against the draft test report
- **Schedule:** Snapshots of the JITF's test schedules are taken monthly. The last schedule posting prior to the start of the month is compared to the actual activity posted after the passing of the month.

Baseline Measure 1.A. – Customer Surveys



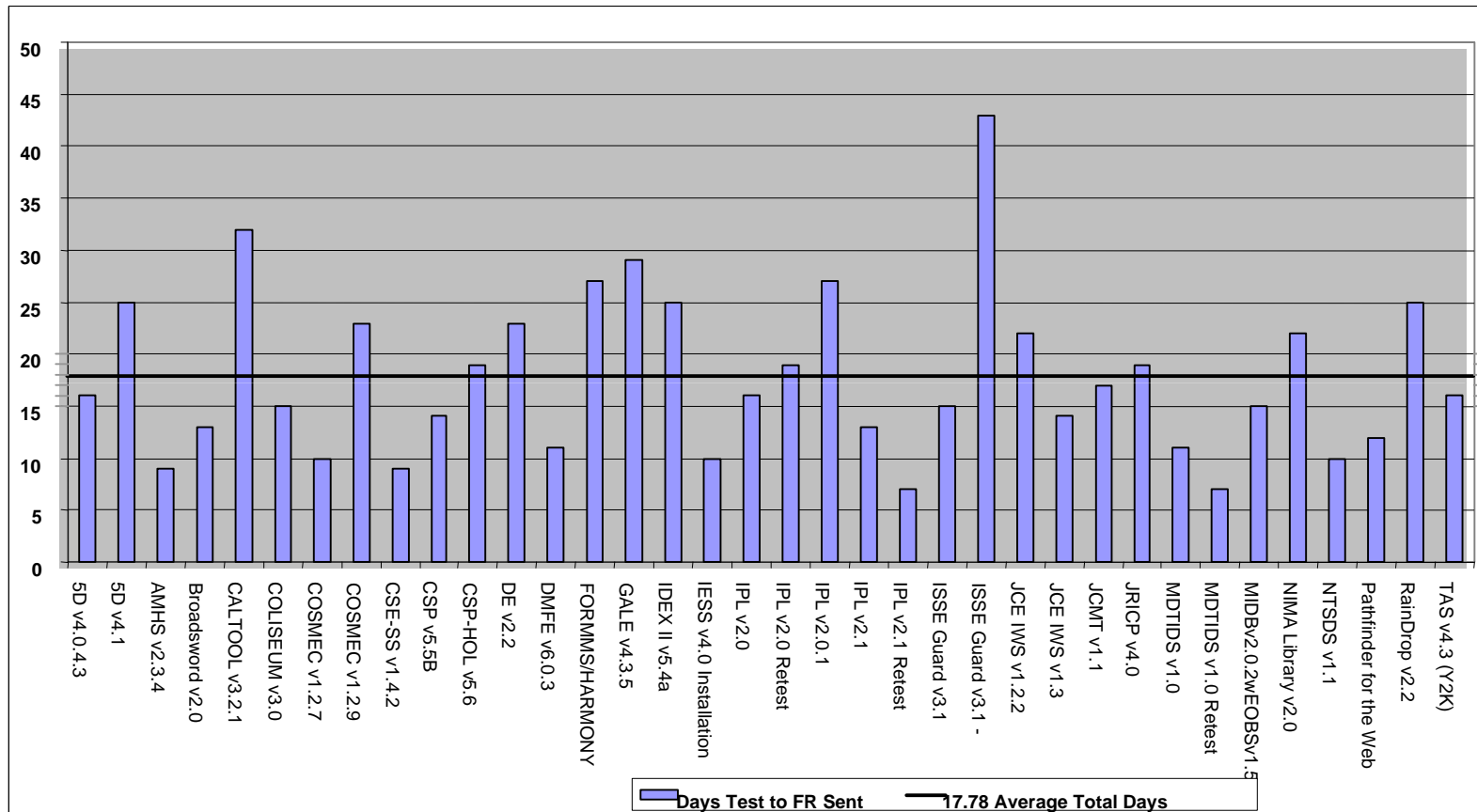
- A customer satisfaction and awareness survey was performed at the May 1999 Test Process Oversight Committee (TPOC) Meeting.
- The results of this survey were reported in the document, *Joint Integration Test Facility (JITF) Customer Awareness Report*, dated October 4th 1999.
- This report is posted on the internet at
http://www.if.afrl.af.mil/programs/jitf/csr/JITF_CSR_FINAL_991004.htm

Baseline Measure 1.B – Timeliness of Test Reporting - DRAFT TRs



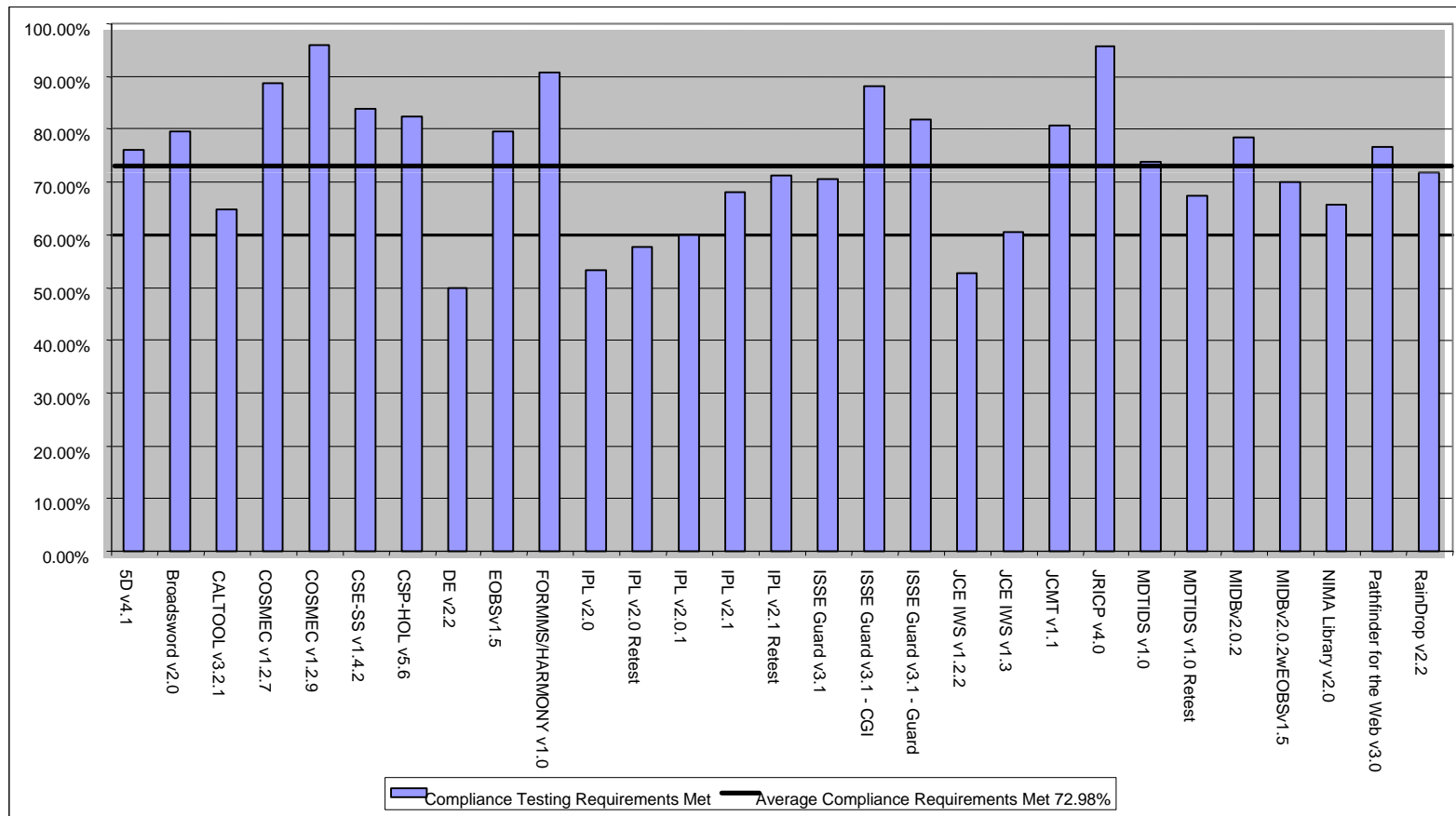
The goal is 5 days or less. Tests with 0 days were retests and had no Draft.

Baseline Measure 1.B – Timeliness of Test Reporting - FINAL TRs



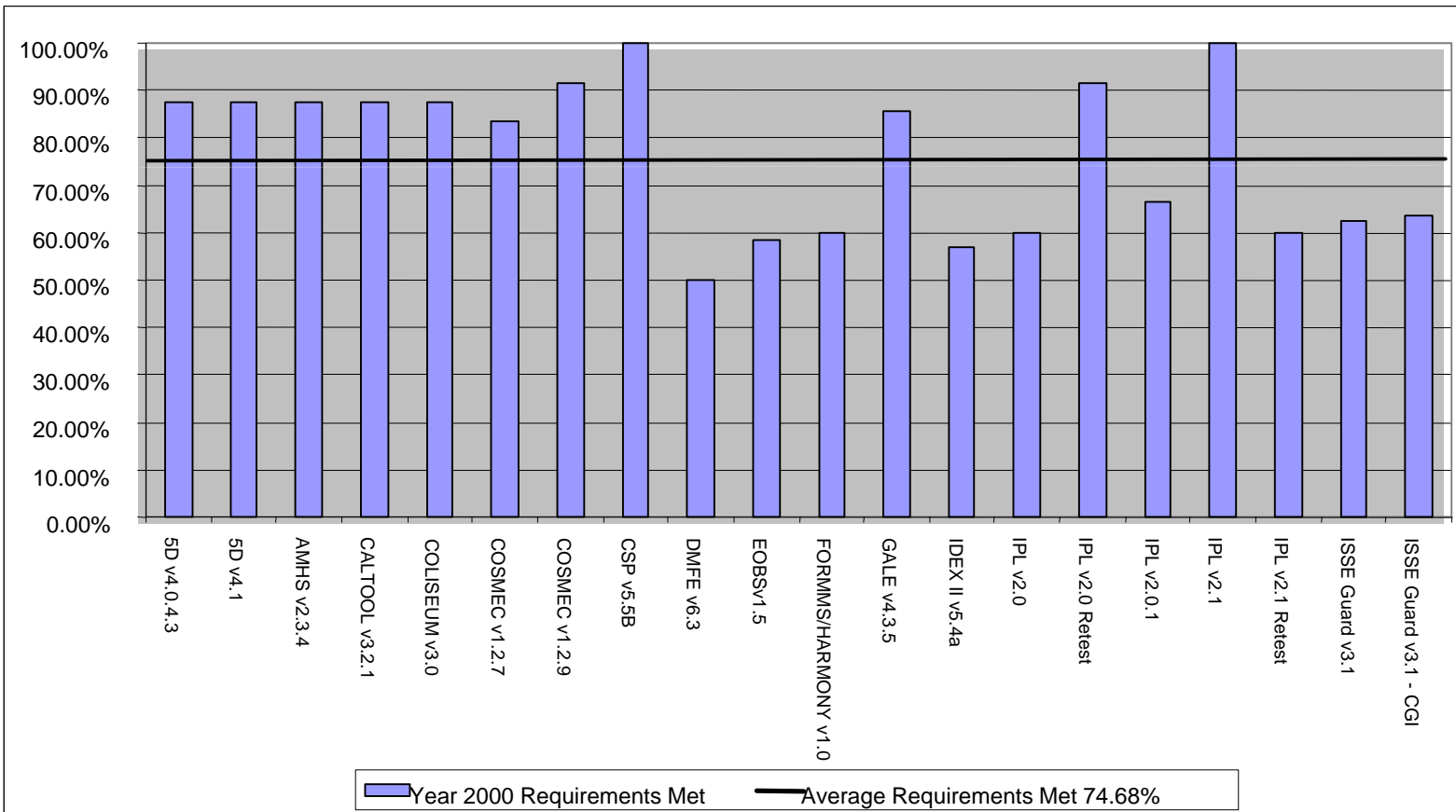
The goal is 10 days or less.

Baseline Measure 2.A – Requirements Met in Compliance Testing

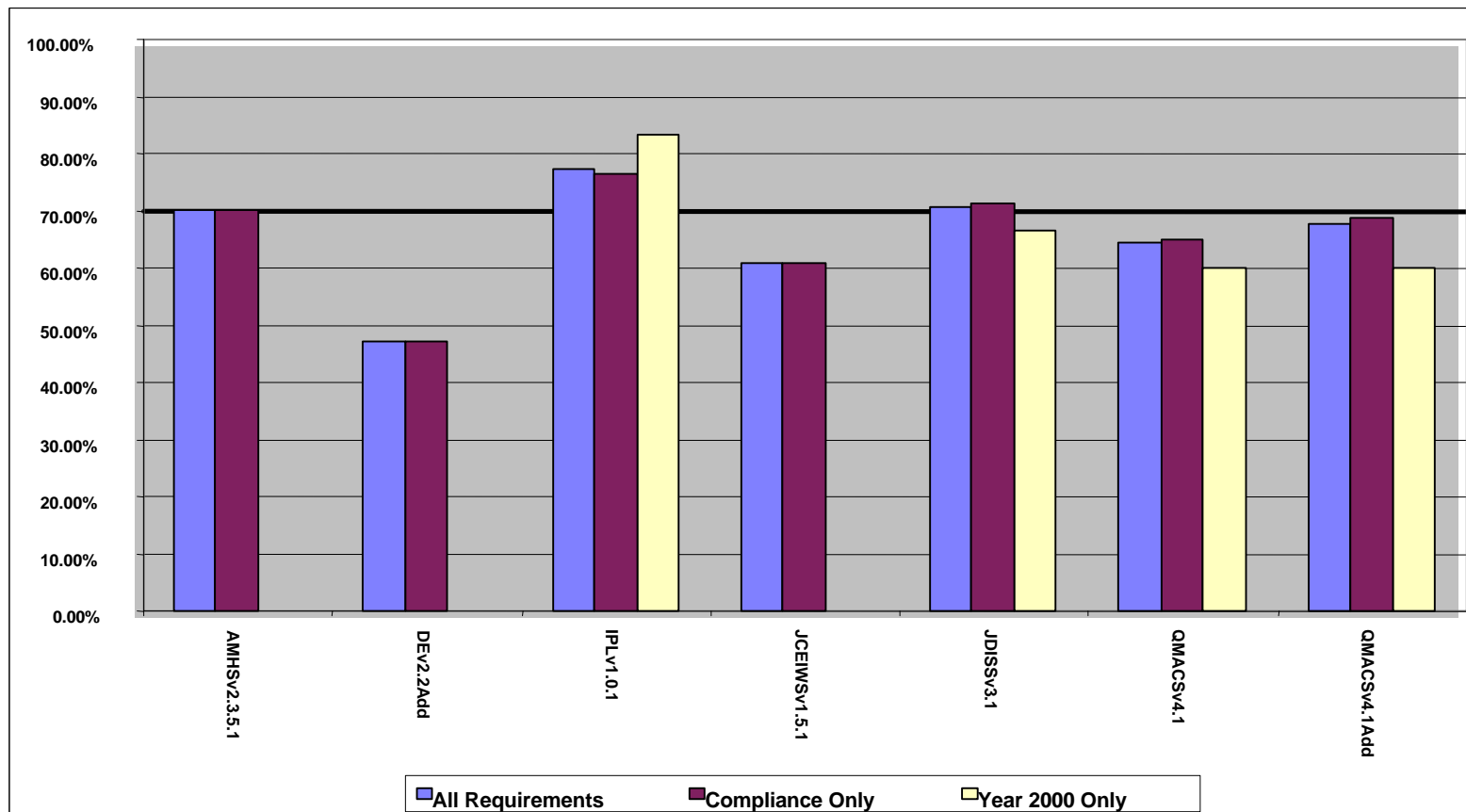


Passing in FY 1999 was 60%. Passing is now 70%.

Baseline Measure 2.A – Requirements Met in Year 2000 Testing



FY2000 1st Quarter Measure 2.A – Requirements Met



Passing is 70%. Average is 66.3%. Compliance average is 66.2%. Year 2000 average is 68.2%.

Baseline Measure 2.B – Requirements Not Met



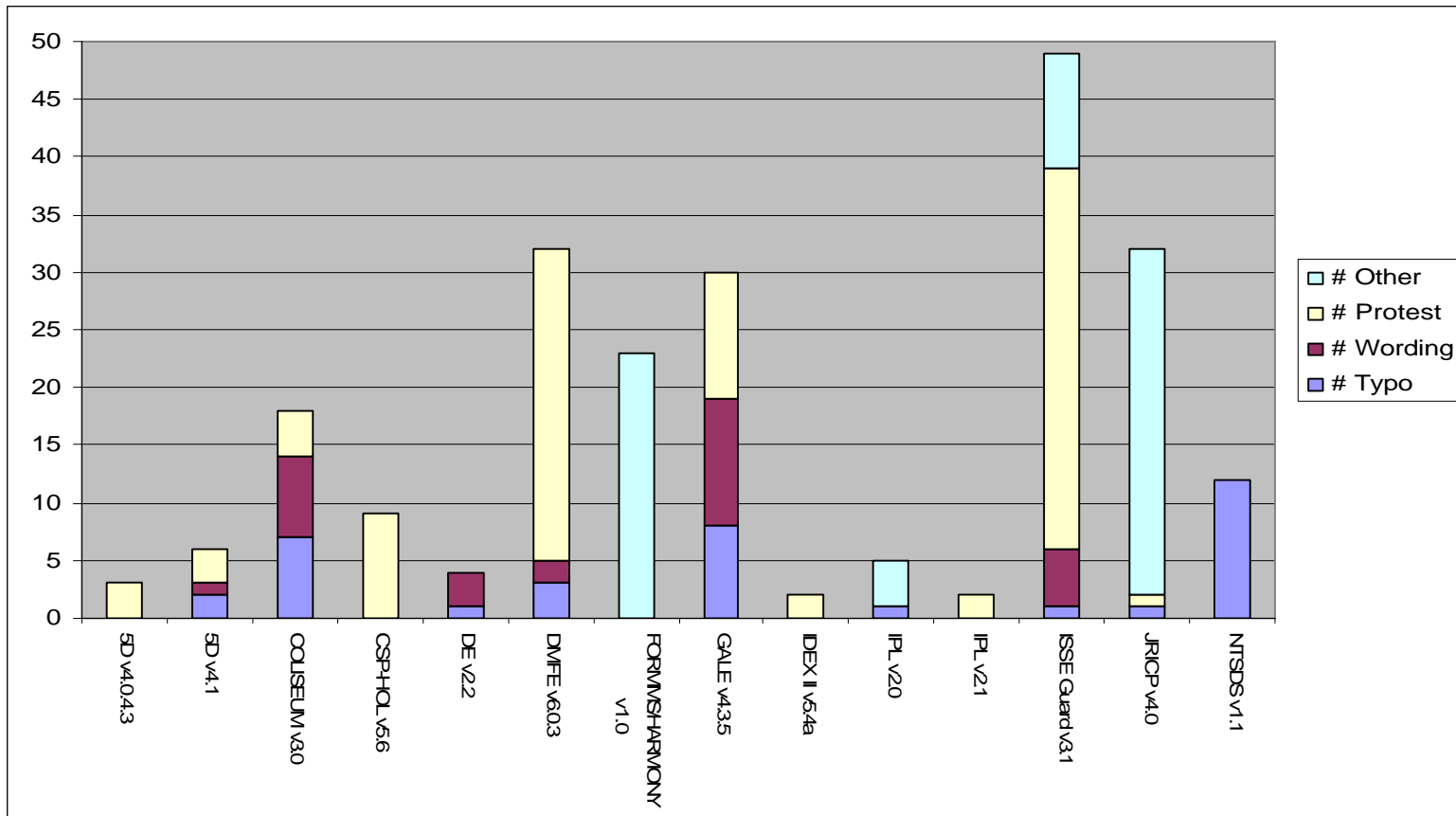
- **Standards/targets** –The target is to present the five most frequent test findings during the JTRR in order to reduce the frequency of the most common defects by 5% within a twelve-month period following the findings initial identification and presentation in JTRR format.
- ***Rationale for standard/target*** – The JITF's primary goal is to ensure the greatest customer satisfaction by providing the highest quality products to end-users. Reduction of the occurrence of the most common problems will reduce end user dissatisfaction.
- This measurement is provided in two formats.
 - 1. Requirements most often receiving a finding by impact code.
 - 2. Pass/Fail ratio of each requirement.

Baseline Measure 3.A – Schedule Volatility



- ***Standards/targets*** –After baseline establishment, the target level will be to reduce the schedule volatility by 5% per quarter. Volatility is defined as the number of days the test is moved (either further into the future or closer to the current date). For example, if 20 days of change occurred in October 1998, the 5% reduction would be realized if 19 (or less) days of change occurred in October 1999.
- ***Rationale for standard/target*** – This is an initial target. The target will be refined as significant quality increases are realized. Once PMOs and the JITF staff incorporate the new management and schedule estimate processes, the window for increased quality will be limited.
- This information for FY1999 was not available for a true historical comparison.
- The snapshots of the last posting prior to month measured were not available. Only the actual occurrences after the fact.

Baseline Measure 3.B – Comments Against Test Report



Baseline Measure 3.B – Comments Against Test Report



• Other

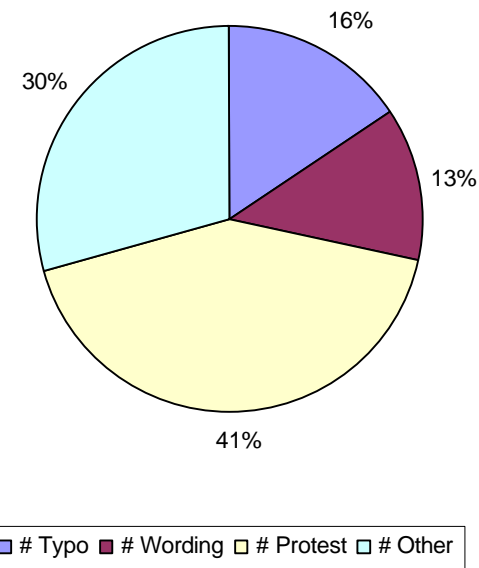
- Projection of future actions
- actions taken after the test
- requests for information
- commentary, etc.
- NOTE: Actions taken after the test often include submission of updated documents with the comments against the draft test report for removal of documentation finding.

• Protest

- pointing out that a requirement does not apply
- requesting that the finding not apply because the cost to fix the finding is too high.
- requesting that the finding apply to another SW portion of an integrated test (e.g. against Oracle or the OS and not the IMA).
- requesting a different impact code.
- requesting removal of the finding based on different interpretations of the requirement.

• Typo



- Spelling, content, and grammatical errors.



• Wording

- same idea with phrasing changes. Commonly called word-smithing.

JITF PMO Entrance and Exit Surveys

1. Please rate the degree of familiarity you have with each of the following documents:

	Extremely familiar	Have read	Have read portions	Have a copy	Never saw it
a. Entrance and Exit Criteria for JITF Integration Testing, dated 4/1999					
b. JITF Test and Evaluation Procedures, Version 2.0, dated 4/1999					
c. Department of Defense Intelligence Information System (DoDIIS) Instructions, dated 4/1999					
d. Test and Evaluation Policy for Department of Defense Intelligence Information, dated 4/1999					



2. Please rate your familiarity with the Integration Testing:

	Fully understand	Mostly understand	Somewhat understand	Minimally understand	Do not understand
a. I understand/understood the items that must be delivered to the JITF prior to testing.					
b. I understand the deadlines for submission of items to the JITF prior to testing.					
c. I understand the criteria for successful completion of JITF integration testing.					
d. I understand the impact codes used in the testing process.					
e. I understand the role of the JITF in the DoDIIS IMA certification process.					

3. Please indicate your level of satisfaction with the JITF:

	Always	Frequently	Occasionally	Seldom	Never
a. The JITF staff answered all of my technical questions about the testing process to my satisfaction.					
b. The JITF staff provided all information necessary for the testing to begin (document references, timelines, requirements, etc.).					
c. The JITF staff provided me with all the appropriate points-of-contact in the event of delay, problems, questions, etc.					

4. Please provide comments to help us improve the JITF testing process:

1. Please rate your degree of familiarity with the DoDIIS certification process:

	Fully understand	Mostly understand	Somewhat understand	Minimally understand	Do not understand
a. I understand the impact of the JITF Test Report in the DoDIIS certification process.					
b. I understand the impact codes used in the integration testing process.					
c. I understand the criteria for successful completion of JITF integration testing.					
d. I understand the role of the JITF in the DoDIIS IMA certification process.					

2. Please rate your familiarity with the JITF Test Report:

	Fully understand	Mostly understand	Somewhat understand	Minimally understand	Do not understand
a. I understand that I will receive a Draft JITF Test Report within 5 working days after completion of the testing.					
b. I understand that I will be able to recommend changes to the draft within the first 2 working days of receipt.					
c. I understand that the Final JITF Test Report will be filed with CM within 10 working days following completion of testing.					
d. I understand that the Final JITF Test Report will be posted on the Virtual Test Folder (VTF) intelink website within 20 days of testing.					
e. I understand that interested parties may have access to the Final Test Report via CM or the VTF.					

3. Please indicate your level of satisfaction with the JITF:

	Always	Frequently	Occasionally	Seldom	Never
a. The JITF staff answered my technical questions about the testing process to my satisfaction.					
b. The JITF staff provided references to findings during the testing process (i.e., cross-mapped finding to requirement).					
c. The JITF staff provided me with the appropriate points-of-contact in the event of delay, problems, questions, etc.					
d. The JITF staff explained the impact of findings that I questioned during the testing.					

4. Please provide comments to help us improve the JITF testing process:

Actions Based on PM Process



- **Recommendation 1: Automate Test Report Process**

- Develop an automated collection process or create an automated form in which to enter the test report data for standardization, pass/fail calculations, findings linked to requirement, and linking to CMDB.

Action Taken: Implemented in 2d Quarter FY2000.

- **Recommendation 2: Modify Test Report Completion/Posting Goals**

- Closely compare the standards and targets set for each metric for possible modification. For example, the currently draft, final, and VTF goals are set from the end of the test completion. Lateness on the draft, causes a domino-effect lateness of the other two measurements. The target could be Draft not later than "X" days from test completion, Final not later than "X" days from draft completion, and VTF posting not later than "X" days from final completion.

Action Taken: Research indicated retests occurred between draft and final test reports. Test Report production procedure was modified. Goal continues as originally stated.

Actions Based on PM Process



- Recommendation 3: Modify internal procedures in Test Report suspense handling.
 - For example, even though the JITF sends out the draft with a limit time for response, JITF representatives accept late comments from PMOs and the 497th. This causes lateness in the “Timeliness of Test Reports” since the JITF technicians must take additional time to incorporate late comments in the Final Report or must create an addendum for each wave of comments.

Action Taken: Test Representative must now complete the Final Test report within 5 days of the Draft completion unless the PMO (or other authority) officially requests an extension of time via email or memorandum. When comments are received late, an addendum will be considered if the DRRs are valid.

Actions Based on PM Process



- Recommendation 4: Modify internal procedures regarding naming of Test Reports:
 - Either a final test report modification or a retest is called an addendum for some tests. Recommend titling as follows (using fictional product Software 4.03):
 - “Final Test Report for Software 4.03 Retest” if the same version is retested. This report would be counted from the date of the retest verses the original test.
 - “Final Test Report for Software 4.03 - Addendum” if the test is modified by late comments. This was not be counted in the “Timeliness of Test Reporting” measurement.
 - “Final Test Report for Software version 4.03” is the title of the first final test report. After the retest based on software changes, “Final Test Report for Software version 4.031” or “Final Test Report for Software 4.03 with change package 1”. This is entirely new test and would be counted as a separate test.

Action Taken: Subsequent testing will be either “Retest” or “Addendum” based on the first two bullets above. The third bullet in the recommendation is not feasible.

Actions Based on PM Process



- Recommendation 5: Continue to consider new measurements and new goals for incorporation into the performance measurement process.

Action Taken: JITF PM has already begun modification of the original set of measurements and is investigating metrics readily available in the CMDB and internally.

- Recommendation 6: After the initial measurement period, consider removing measurements that are not directly controllable by the JITF or its enterprise/upper management such as the schedule volatility.

Action Taken: Although the metric “Schedule Volatility” is not controllable by the JITF, this metric provides manpower and resource management data. This metric is invaluable in budget projections.

Final Thought



Performance measurement leads to program and process improvement.

Most significantly, performance plans enhance and facilitate effective communications between the developer, the customer, and the user with respect to program objectives and expectations.